
A New and an Emended Species of *Mouriri* (Melastomataceae)

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ABSTRACT. A new species of *Mouriri*, *M. laxiflora*, from eastern Ecuador is described and illustrated, and a description of *Mouriri crassisepala* of the Dominican Republic is revised to include flowering material, with illustrations of the flowering parts.

***Mouriri laxiflora* Morley, sp. nov.** TYPE: Ecuador.

Napo: Aguarico, Reserva étnica Huaorani, carretera y oleoducto de Maxus en construcción, Km 71, al sur del río Tivacuno, bosque humedo tropical, bosque primario, colinas de suelos rojos, 0°50'S, 76°19'W, 250 m, 15–25 Jan. 1994 (fl), *Milton Aulestia & I. Ima 1575* (holotype, MO; isotypes, MIN, QCNE). Figure 1.

Arbor usque 14 m alta; ramuli juvenes teretes; superficies costae mediae plana; cryptae stomatophorae nullae; hypodermis absens; inflorescentiae cauliflorae, singulae 3–18-florae; calyx ovarium inferior includens 9–11 mm longus, lobi $\frac{1}{10}$ connati usque ad anthesem, tum ad lineas conjunctionis loborum rumpens, 4.5–4.7 mm longi ab staminibus, quadrati usque trapezoidei, truncati et apiculati; petala purpurea; antherae 5.7–6 mm longae, thecae 5.6–6 mm longae, rimis apicalibus dehiscentes; glandula 0.4–0.5 mm longa; ovarium 5-loculare, ovula 20–25; fructus subglobosus, calyce coronato; semina ca. 5–7, 14.5–15 mm alta.

Tree to 14 m high, the trunk to 15 cm diam.; odor astringent; latex scanty, watery-creamy; young twigs with rounded angles; plants glabrous except for the inflorescence. Petioles 2–4 mm long; blades 10–16.5 cm long, 3–5.7 cm wide, elliptic or narrowly so to slightly ovate-elliptic, obovate-elliptic, or ovate-oblong, abruptly acute to acuminate at the apex, acute to rounded or abruptly so or abruptly truncate to slightly cordate at base; midrib plane above, rounded below at base, becoming rectangular away from the base; lateral nerves conspicuous above and below when dry. Midrib xylem tubular; stomatal crypts none; upper epidermis nearly unpigmented with few chloroplasts, varying from 1 to 2 cells thick in the same leaf, mucilaginous walls common, mostly in the inner cells where double, sometimes in the single cells; hypodermis none; terminal sclereids stellate-columnar. Inflorescences borne on the trunk, 1 or 2 per side, each 3–18-flowered, 29–110 mm long to base of farthest pedicel measured along the axes and with 3–5 inter-

nodes in that distance, the branchlets puberulent, the lateral branchlets flattened, 1.2–2.2 times as wide as thick; bracts 2–4 mm long, triangular, acute, perfoliate at base. Young flower buds green, becoming cream; flowers pentamerous; true pedicels 3–8 mm long, expanded at the apex, puberulent; calyx including inferior ovary 9–11 mm long, ellipsoid to obovoid, dark reddish brown to reddish black when dry, sparsely puberulent to nearly glabrous, the petals not protruding at the apex till the bud is full size; calyx lobes initially triangular, 0.8–1.5 mm long, ca. 1.0 mm wide, becoming low triangular to truncate and apiculate as the bud enlarges, stretching to 2.2–3.3 mm wide just before the calyx splits; as separation of the lobes occurs, all lobes become truncate and apiculate at the apex often with some retraction of the central apiculum and elevation of the torn shoulders creating a slight reverse curve on each side of the apiculum; lobes splitting apart a distance of 2.5–4.5 mm at anthesis, then quadrate to trapezoidal, 4.5–4.7 mm long from top of stamen scar, 3.6–5.8 mm wide at base, to 6.2 mm wide in fruit, 1.7–3 mm wide at apex, 3–4.5(–5) mm wide 1 mm below the apex; free hypanthium 4.5–5.5 mm long. Petals purple, broadly elliptic, 12–14 mm long, 7–8 mm wide, acute to abruptly so at apex, with a tapering claw 1 mm long at base. Stamens purple, the filaments 11–13 mm long; anthers (cleared and expanded in NaOH) 5.7–6 mm long, 2.6–2.7 mm wide; thecae 5.6–6 mm long, dehiscent by apical slits; gland 0.4–0.5 mm long, 3.5–4 mm from apex of anther when measured from center of gland; cauda none; anthers when dry 5.2–5.5 mm long, then narrower (theca to gland) than above, the shrinkage changing the overall appearance and increasing the width of the pores. Ovary 5-locular; ovules axile-basal, produced only outwardly from each placenta, 3–5 per locule, 20–25 in all; style 20–25 mm long; fruits subglobose, crowned with the calyx, 20–24 mm high excluding hypanthium and calyx, 20–32 mm diam., the hypanthium cavity 6–6.5 mm diam., 3.5–4 mm deep from bottom to base of filament scar, the base concave to flat, the style scar 1–1.5 mm diam., the walls vertical, the anther ridges at top of hypanthium 2–2.5 mm apart, the lower edge of the over-

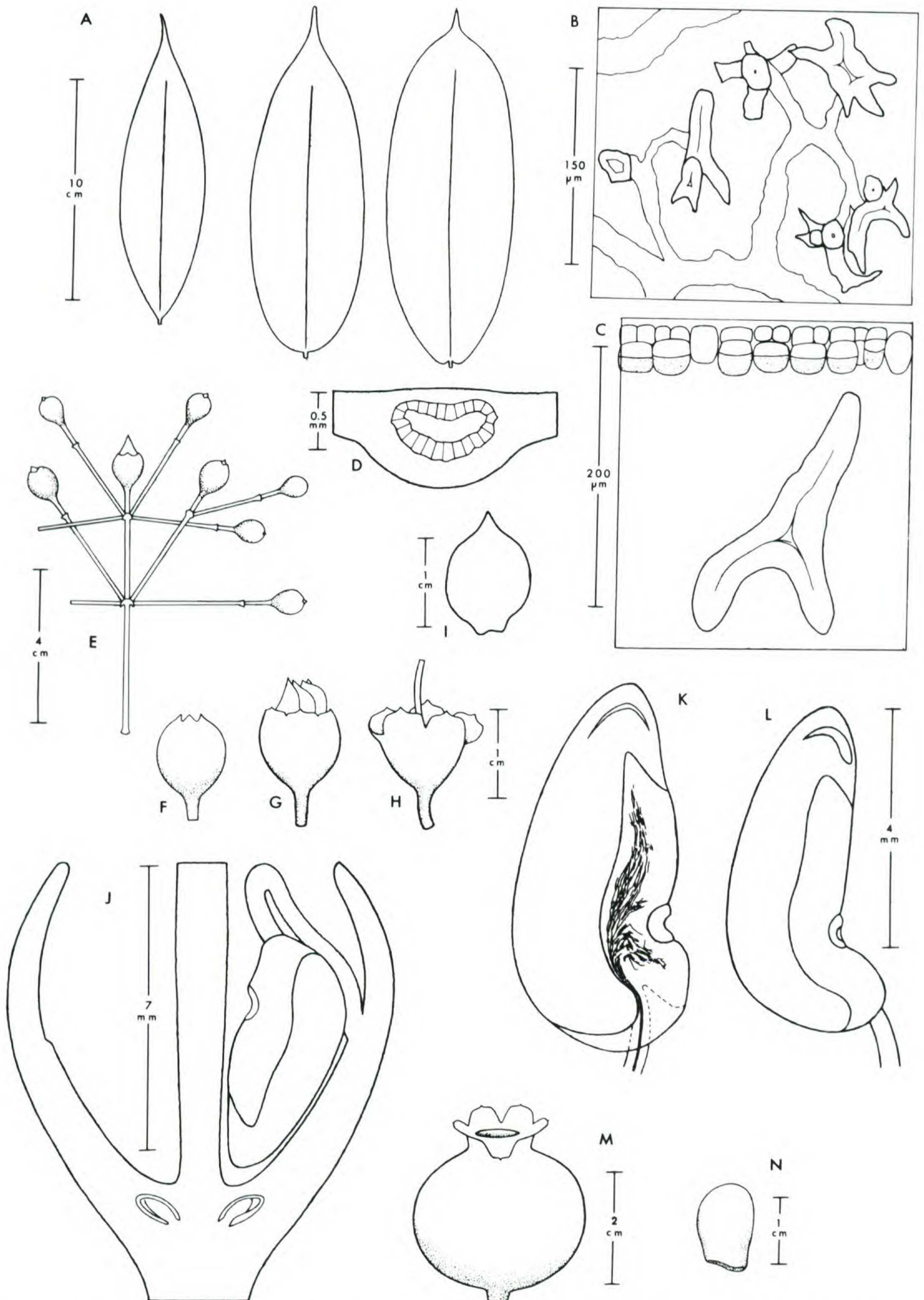


Figure 1. *Mouriri laxiflora* Morley. —A. Leaves from various collections. —B. Cleared part of leaf blade showing veins and terminal sclereids (*Dik 883*). —C. Cross section of leaf blade showing sclereids and upper epidermis (*Dik 883*). —D. Cross section of leaf midrib (*Aulestia 1514*). —E. Inflorescence (*Dik 883*). —F–H. Stages in expansion

hanging rim near the top of the hypanthium (inner abscission line?) from contacting the lower edge of the antesealous stamen scar to 0.7 mm below it, with a fringe of tiny white papillae. Seeds ca. 5–7, 14.5–15 mm high, 9–10 mm wide radially, 5.9–9.2 mm thick, flattened on the contact faces, medium to dark brown, polished, with a rough flattish basal hilum 5 mm long, 3–4 mm wide from nearly horizontal to angled at 45°.

Reproduction. Flowering, December–January; fruiting, April–May.

Distribution. Primary tropical forests of east Ecuador, often hilly land with red soil; 230–250 m.

Local names. Huaorani, *emuyno*, *emoihue*; Quichua, *sacha mulchi*.

The new species falls in the subgenus *Mouriri* and section *Olisbea* of the genus. Characters placing it in subgenus *Mouriri* are its tubular midrib xylem, axile-basal placentation, polished seeds, common mucilaginous walls in the upper epidermis, and purple petals. It belongs in *Olisbea* on the basis of its lack of stomatal crypts in large leaves, pentamerous flowers with long anthers and anther thecae, calyx lobes nearly fully fused with petals not protruding till the bud is full size, and the long splitting distance of the calyx lobes at anthesis. The new species is distinguished from all others in the group by the combination of its mostly acute to rounded leaf bases, plane upper midrib, lack of stomatal crypts, presence of mucilage walls in the upper epidermis, large open inflorescence, regular separation of the tips of the calyx lobes in bud, broad squarish calyx lobes at anthesis, and unlobed fruit with persistent calyx.

Of the other species, *Mouriri laxiflora* is most similar to *M. grandiflora* DC. and *M. tessmannii* Markgraf. *Mouriri tessmannii* is especially suggestive as a relative because of its unpigmented upper epidermis, similar anther form, and geographic proximity. However, *M. laxiflora* differs in its much larger inflorescence, larger bracts of the inflorescence, regular calyx lobes which become truncate and apiculate at anthesis and which are 3–5 mm wide 1 mm below the end of the lobe compared to 1.8–2 mm wide at that point in the ovate-triangular lobes of *M. tessmannii*; the latter plant also has a fruiting hypanthium 4–5 mm in diameter and 5.5 mm deep with the lower edge of the overhanging rim near the top of the inner hypanthium 0.7–2 mm

below the antesealous stamen scar, compared to the measurements given above for *M. laxiflora*; and the overhanging rim of *M. tessmannii* lacks a fringe. The new species differs from the widespread *M. grandiflora* in the former's nearly unpigmented upper epidermis, much larger inflorescence, and truncate and apiculate calyx lobes at anthesis compared to the triangular to rounded ones in *M. grandiflora* which are 1.5–2.8 mm wide 1 mm below the apex; the 20–25 ovules, seeds 14–15 mm high, and fully persistent calyx in *M. laxiflora* also differ from the 15–19 ovules, seeds 8–11 mm high, and more or less deciduous fruiting calyx of *M. grandiflora*.

Paratypes. ECUADOR. **Napo:** Aguarico, Reserva Etnica Huaorai, carretera y oleoducto de Maxus en construcción, Km 67–69, colinas de suelo rojo, 0°49'S, 76°22'W, 250 m (buds & fls), *M. Aulestia*, *N. Andi*, *E. Nenquerei 1514* (MIN, MO, QCNE); Orellana, Parque Nacional Yasuni, carretera y oleoducto de Maxus en construcción, Km 9–11, 0°29'S, 76°33'W, 230 m, 14 Dec. 1993 (buds & fls), *A. Dik 883* (MIN, MO, QCNE); Km 19, 0°33'S, 76°31'W, 230 m, 1–27 Apr. 1993 (frs), *F. Hurtado 3100* (MIN, MO, QCNE), *F. Hurtado 3167* (MIN, MO, QCNE); Km 20, 0°33'S, 76°30'W, 250 m, 28–30 July 1993 (fl buds), *M. Aulestia* & *G. Grefs 184* (MIN, MO, QCNE).

Mouriri crassisepala Morley, expanded description. Figure 2.

Originally collected and described only in fruit, plants of the species were collected in flower in 1993, necessitating an expansion of its description. Italicized words are additions to the original description (Morley, 1993) made from the new material.

Small erect tree to 12 m high, glabrous except for the inflorescence; young twigs round to 4-angled or rarely with small ridges at the angles. Petioles 1.5–3.5 mm long, *blades 13–25 times the petiole length*, 2.7–4.8 cm long, 1.7–3.3 cm wide, 0.36–0.48 mm thick, elliptic to ovate-elliptic, the margin strongly revolute, the apex rounded or seeming broadly acute through revolution of the margins, rarely mucronate, the base acute to broadly so; midrib plane above, plane to very low rounded or very low-rectangular or with two low lateral ridges below; lateral nerves not visible. Midrib xylem tubular; stomatal crypts usually Type III (Morley, 1976), Type II when small, averaging 60–71 μm diam, 28–35 μm high, 25–42 per sq. mm (extremes 35–100 μm diam., 25–40 μm high, 15–57 per sq. mm); upper epidermis 1–2 cells thick; mucilage

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of flower buds (*Aulestia 1575*). —I. Petal (*Aulestia 1575*). —J. Lengthwise section of flower bud (*Aulestia 1575*). —K. Anther expanded in NaOH, presumably equivalent to the fresh condition (*Aulestia 1575*). —L. Dry anther (*Aulestia 1575*). —M. Fruit (*Hurtado 3167*). —N. Seed (*Hurtado 3167*).

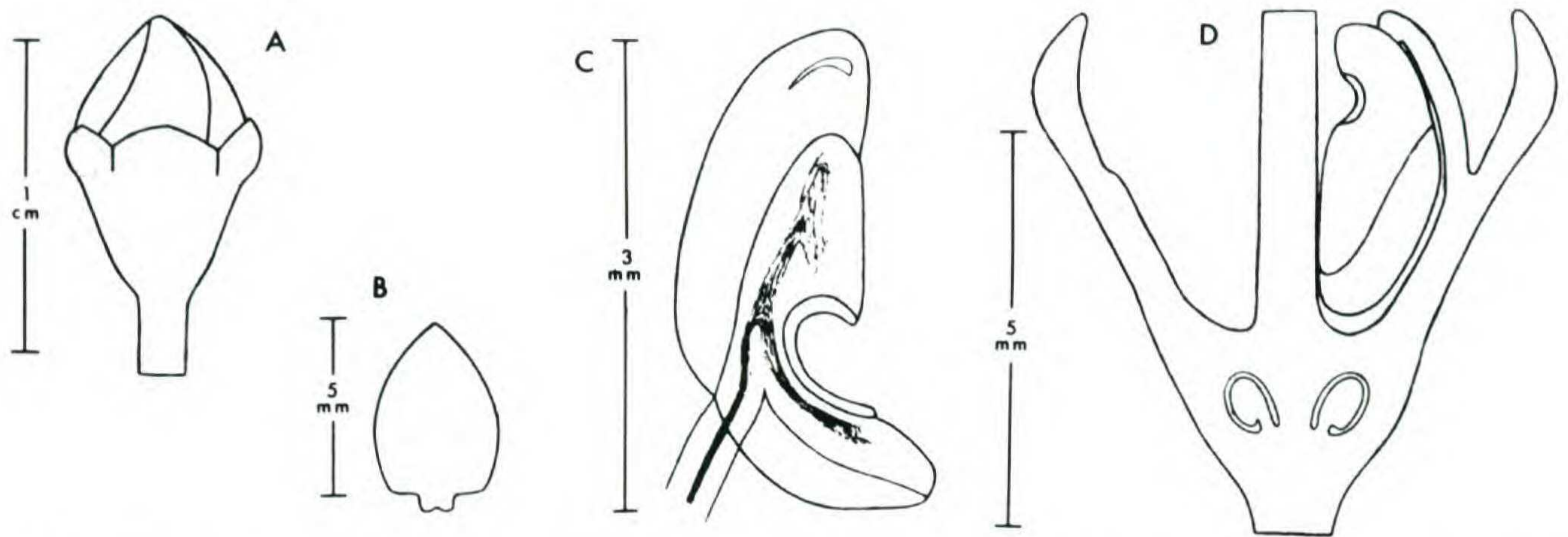


Figure 2. *Mouriri crassisejala* Morley. —A. Flower, boiled (Mejia 2210). —B. Petal (Mejia & Montilla 2213). —C. Anther, cleared in NaOH (Mejia & Montilla 2213). —D. Lengthwise section of flower (Mejia 2210).

walls none; hypodermis present; terminal sclereids from stellate with a horizontal central body and columnar branches to thick-columnar with branches at each end and no central body. Flowers on the new branches, mostly terminal, seldom in the upper axils; peduncles 1–2 per side, each 1–5-flowered, 3–29 mm long to base of most distal pedicel measured along the axes and with 1–3 internodes in that length; bracts deciduous in flower. True pedicels 1.5–7 mm long, they and the axes of the inflorescence minutely puberulent or granular to glabrous; flower buds whitish-rose; calyx including inferior ovary obconic, 5–6 mm long, minutely puberulent on the upper hypanthium; free hypanthium 2–2.3 mm long; calyx lobes just before anthesis low-triangular, spongy-thickened when boiled and presumably when fresh, drying flatter, 0.5–1.0 mm long, 1.9–3.3 mm wide, 2–2.4 mm long from stamen attachment, the calyx characters slightly different in fruit (see below), splitting distance between adjacent lobes at anthesis 0.8–1.4 mm. Petals white with the lower midnerve red, 5–6 mm long, 3.5 mm wide, ovate, acute at apex, truncate at base with a claw 0.5 mm long, minutely puberulent, containing numerous druses. Anthers 3–3.7 mm long, the thecae yellow, dehiscent by apical slits, 2.3–2.6 mm long; gland 0.6–0.8 mm long, 2–2.7 mm from apex of anther when measured from center of gland. Stigma lilac, showy; ovary 3(–4)-locular, the locules separate, the ovules axile-basal, produced only outwardly from each placenta, 8–10 in all. Fruits green and yellow when mature, crowned with the calyx, 1–4-seeded, subglobose when 1-seeded, then 14–22 mm diam., lobed according to the number of seeds when seeds more than 1, up to 32 mm diam. when seeds 2–4, the dry measurements ca. 25% less; calyx lobes in fruit 1.5–1.9 mm long from stamen attachment, 2.4–3.2 mm wide, 0.3–0.7 mm thick, rounded; petal and stamen scars dark, barely or not discernible, flush with the surface; petal scars 1.3–

1.5 mm long (radially), 1.3–1.4 mm wide (circumferentially) or indistinct; antesealous stamen scars 0.3–0.5 mm long, 0.8–1.2 mm wide, the antepetalous ones 0.4 mm long and 0.6 mm wide or indistinct; style scar 1.5–2.5 mm diam.; inside diameter of base of fruiting hypanthium 4.2–6.6 mm, less at apex, the walls thus overhanging, the overhang great in 1-seeded fruits, less in several-seeded ones; apex of fruit within hypanthium convex to flat. Seeds medium to dark brown, smooth, 14–16.5 mm long, 12.5–15.5 mm wide, 10–14 mm thick, subglobose or flattened on the contact faces when more than 1, with a roundish to angled basal hilum 5–7 mm diam.

This species was adequately distinguished from its close relatives when published with the possible exception of *M. gonavensis* Urban & Ekman, which is known only from flowering material. The distinctions from the latter species as then known were stated on p. 276. The new material adds to these distinctions with the following comparisons; as before, the first statement refers to *M. crassisejala*, the second to *M. gonavensis*: calyx lobes thickened vs. unthickened; petals containing numerous druses vs. no druses seen; anther thecae 2.3–2.6 mm long vs. 2.0–2.3 mm long; ovary locules 3–4 vs. 2–3; ovules attached axile-basally vs. axile at a point $\frac{1}{3}$ – $\frac{1}{2}$ of the locule height above the base.

Additional specimens examined. DOMINICAN REPUBLIC. **La Vega:** Cordillera Central, Loma La Sal, 40 minutos antes de llegar al Rio Camú, en el camino La Sal a Loma El Col, 1200 m, 13 July 1993 (fls), *M. Mejia* 2210 (JBSD, MIN); Loma La Meseta, Reserva Científica Ebano Verde, 1150 m, 14 July 1993 (fls), *M. Mejia* & *T. Montilla* 2213 (JBSD, MIN).

Literature Cited

- Morley, T. 1976. Memecyleae (Melastomataceae). *Fl. Neotrop.* 15: 1–295.
 ———. 1993. A new *Mouriri* (Melastomataceae) from the Dominican Republic. *Novon* 3: 274–277.